REMARKS/ARGUMENTS

This paper is being provided in response to the July 1, 2005 Office Action for the above-referenced application. In this response, Applicant has added Claims 211 and 212, and amended Claims 181,186, 187, 189, 193, 198, 199, and 201-206 in order to clarify that which Applicant deems to be the claimed invention. Applicant respectfully submits that the amendments to the claims are all supported by the originally filed application.

Applicant gratefully acknowledges the indication of the allowable subject matter of Claims 186 and 198 if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicant has amended Claims 186 and 198 in accordance with remarks set forth in the Office Action and Applicant respectfully submits that Claims 186 and 198 are now in condition for allowance.

The rejection of Claims 181-185, 187-197, and 199-210 under 35 U.S.C. § 102(b) as being anticipated by Bjork et al. (U.S. Patent No. 5,128,619, hereinafter referred to as "Bjork") is hereby traversed and reconsideration thereof is respectfully requested. Applicant respectfully submits that Claims 181-185, 187-197, and 199-210, as amended herein, are patentable over the cited reference.

Applicant's Claim 181, as amended herein, recites a method for detecting an event on a wire comprising: processing a received waveform in accordance with signal propagation modeling in said wire producing a processed waveform; fitting each of a plurality of functions to a portion of data points representing said processed waveform, wherein each of said plurality of functions is a localized curve fitting of said portion of data points that approximates values of the

data points in the portion; and detecting an event using a characteristic of said processed waveform. Claims 182-185, 187-192, and 207-208 depend from Claim 181.

Applicant's Claim 193, as amended herein, recites a computer program product for detecting an event on a wire comprising: executable code that processes a received waveform in accordance with signal propagation modeling in said wire producing a processed waveform; executable code that fits each of a plurality of functions to a portion of data points representing said processed waveform, wherein each of said plurality of functions is a localized curve fitting of said portion of data points that approximates values of the data points in the portion; and executable code that detects an event using a characteristic of said processed waveform. Claims 194-197, 199, 200, 209, and 210 depend from Claim 193.

Applicant's Claim 201, as amended herein, recites a method for detecting an event on a wire comprising: fitting each of a plurality of functions to a portion of data points representing a received waveform, wherein each of said plurality of functions is a localized curve fitting of said portion of data points that approximates values of the data points in the portion; determining a characteristic for each of said plurality of functions; evaluating said characteristic of each of said plurality of functions at data points representing said received waveform; and detecting an event using said characteristic of each of said plurality of functions, wherein, if said event indicates a fault condition of said wire, said characteristic is used to identify a type of fault condition.

Applicant's Claim 202, as amended herein, recites a method for detecting an event on a wire comprising: fitting each of a plurality of polynomials to a portion of data points representing a received waveform, said portion of data points including a number of data points

in accordance with a selected window size, wherein the data points included in said portion include a designated data point and a specified number of data points relative to said designated data point; determining a characteristic for each of said plurality of polynomials; evaluating said characteristic of each of said plurality of polynomials at data points representing said received waveform; and detecting an event using said characteristic of each of said plurality of polynomials.

Applicant's Claim 203, as amended herein, recites a method for detecting an event on a wire comprising: fitting each of a plurality of functions to a portion of data points representing a received waveform, wherein said fitting is a localized curve fitting technique utilized to smooth said data points; determining a derivative for each of said plurality of functions; evaluating said derivative of each of said plurality of functions at data points representing said received waveform; and detecting an event using said derivative of each of said plurality of functions.

Applicant's Claim 204, as amended herein, recites a computer program product for detecting an event on a wire comprising code that: fits each of a plurality of functions to a portion of data points representing a received waveform, wherein each of said plurality of functions is a localized curve fitting of said portion of data points that approximates values of the data points in the portion; determines a characteristic for each of said plurality of functions; evaluates said characteristic of each of said plurality of functions at data points representing said received waveform; and detects an event using said characteristic of each of said plurality of

functions, wherein, if said event indicates a fault condition of said wire, said characteristic is used to identify a type of fault condition.

Applicant's Claim 205, as amended herein, recites a computer program product for detecting an event on a wire comprising code that: fits each of a plurality of polynomials to a portion of data points representing a received waveform, said portion of data points including a number of data points in accordance with a selected window size, wherein the data points included in said portion include a designated data point and a specified number of data points relative to said designated data point; determines a characteristic for each of said plurality of polynomials; evaluates said characteristic of each of said plurality of polynomials at data points representing said received waveform; and detects an event using said characteristic of each of said plurality of polynomials.

Applicant's Claim 206, as amended herein, recites a computer program product for detecting an event on a wire comprising code that: fits each of a plurality of functions to a portion of data points representing a received waveform, wherein said fitting is a localized curve fitting technique utilized to smooth said data points; determines a derivative for each of said plurality of functions; evaluates said derivative of each of said plurality of functions at data points representing said received waveform; and detects an event using said derivative of each of said plurality of functions.

Bjork relates generally to a system for, and method of, determining cable characteristics, and more specifically to a system for, and method of, determining characteristics of installed cable for digital communications. (Col. 1, Lines 9-12). An incident pulse is transmitted over the

communication cable. In response to the incident pulse, a waveform, including any pulses reflected from the cable, is detected. The waveform is digitized into a plurality of time samples. First, second, and third derivatives of each of the time samples are calculated. Each of the time samples are then analyzed to determine whether a significant pulse is included in the waveform. If more than one positive significant pulse or a negative significant pulse is found, the communication cable includes at least one fault which will prevent the operation of the digital communication thereon. (Col. 2, Lines 6-25; Figures 5a and 5b). Bjork discloses a method for determining whether a cable will support digital telephones or communications thereon. The application determines the presence of significant pulses in the waveform in order to determine the location of the end of the cable, the cable attenuation and the presence of bridge taps. With reference to Bjork's Figure 5a, the flowchart thereof includes step 100 for determining the cable impedance and acquiring the waveform in step 101. The waveform is then processed using an averaging filter in step 102 and the first, second and third derivatives of the time samples are determined in step 104. (Col. 5, Line 67-Col. 6, Line 29; Figure 5a).

Applicant's Claim 181, as amended herein, is neither disclosed nor suggested by Bjork in that Bjork neither discloses nor suggests at least the features of ***a method for detecting an event on a wire comprising: ... fitting each of a plurality of functions to a portion of data points representing said processed waveform, wherein each of said plurality of functions is a localized curve fitting of said portion of data points that approximates values of the data points in the portion;...*** as set forth in Claim 181. As pointed out above, the method disclosed in Bjork's Figure 5a includes determining the cable impedance (step 100), acquiring the waveform (step 101), processing the waveform using an averaging filter for smoothing (step 102), and then determining the first, second and third derivatives of the time samples. Bjork discloses digitizing

a waveform into a plurality of time samples and using an averaging filter for smoothing, but appears silent regarding any disclosure or suggestion of performing curve fitting. Accordingly, Bjork neither teaches, discloses nor suggests at least the foregoing recited features of Claim 181.

For reasons similar to those set forth regarding Claim 181, Applicant's Claim 193, as amended herein, is neither disclosed nor suggested by Bjork in that Bjork neither discloses nor suggests at least the feature of ***a computer program product for detecting an event on a wire comprising: ... executable code that fits each of a plurality of functions to a portion of data points representing said processed waveform, wherein each of said plurality of functions is a localized curve fitting of said portion of data points that approximates values of the data points in the portion; ...*** as set forth in Claim 193.

For reasons similar to those set forth regarding Claim 181, Applicant's amended Claim 201 is also neither disclosed nor suggested by Bjork in that Bjork neither discloses nor suggests at least the features of ***a method for detecting an event on a wire comprising: fitting each of a plurality of functions to a portion of data points representing a received waveform, wherein each of said plurality of functions is a localized curve fitting of said portion of data points that approximates values of the data points in the portion;*** ... as set forth in Claim 201.

For reasons similar to those set forth regarding Claim 181, Applicant's amended Claim 204 is also neither disclosed nor suggested by Bjork in that Bjork neither discloses nor suggests at least the features of ***a computer program product for detecting an event on a wire comprising code that: fits each of a plurality of functions to a portion of data points representing a received waveform, wherein each of said plurality of functions is a localized curve fitting of***

said portion of data points that approximates values of the data points in the portion; ..., as set forth in Claim 204.

Applicant's amended Claim 202 is neither disclosed nor suggested by Bjork in that Bjork neither discloses nor suggests at least the features of ***a method for detecting an event on a wire comprising: ... fitting each of a plurality of polynomials to a portion of data points representing a received waveform, said portion of data points including a number of data points in accordance with a selected window size, wherein the data points included in said portion include a designated data point and a specified number of data points relative to said designated data point;*** ... as set forth in Claim 202. Bjork discloses digitizing a waveform into a plurality of time samples, but appears silent regarding any disclosure or suggestion of a selected window size, a designated point and a specified number of data points relative to said designated data point. Accordingly, Bjork neither discloses nor suggests at least the foregoing features of Claim 202.

For reasons similar to those set forth regarding Claim 202, Applicant's amended Claim 205 is neither disclosed nor suggested by Bjork in that Bjork neither discloses nor suggests at least the features of ***a computer program product for detecting an event on a wire comprising code that: fits each of a plurality of polynomials to a portion of data points representing a received waveform, said portion of data points including a number of data points in accordance with a selected window size, wherein the data points included in said portion include a designated data point and a specified number of data points relative to said designated data point;...*** as set forth in Claim 205.

Bjork neither discloses nor suggests amended Claim 203 in that Bjork neither discloses nor suggests at least the features of ***a method for detecting an event on a wire comprising: fitting each of a plurality of functions to a portion of data points representing a received waveform, wherein said fitting is a localized curve fitting technique utilized to smooth said data points;*** ... as set forth in Claim 203. Bjork discloses smoothing using an averaging filter, but appears silent regarding any disclosure or suggestion using localized curve fitting to smooth the data points. Accordingly, Bjork neither teaches, discloses nor suggests at least the foregoing recited features of Claim 203.

For reasons similar to those set forth regarding Claim 203, Applicant respectfully submits that amended Claim 206 neither discloses nor suggests at least the features of ***a computer program product for detecting an event on a wire comprising code that: fits each of a plurality of functions to a portion of data points representing a received waveform, wherein said fitting is a localized curve fitting technique utilized to smooth said data points; ...*** , as set forth in Claim 206.

Applicant respectfully submits that claims that depend from independent Claims 181 and 193 are patentable for at least those reasons set forth above regarding these independent claims. Furthermore, Bjork also neither discloses nor suggests additional features set forth in Applicant's dependent claims. In particular, Claim 208 recites ***wherein said detecting an event is performed in accordance with at least one statistical threshold***. Claim 210 similarly recites the same feature with respect to computer program product. Bjork discloses determining a number of positive and negative significant pulses as used in step 148 of Figure 5B. Bjork discloses using three thresholds: CT for clearing the pulse counters, PT for finding a pulse edge, and ZT for

zeroing all counters and flags. Bjork discloses that the width of the incident pulse is used in determining the foregoing thresholds (Col. 6, Lines 34-39) and does not appear to use a statistical threshold as recited in the foregoing dependent Claims 208 and 210.

In view of the foregoing, Applicant respectfully requests that the rejection be reconsidered and withdrawn.

Applicant respectfully submits that Applicant's newly added Claims 211 and 212 are also patentable over the cited art.

Based on the above, Applicant respectfully requests that the Examiner reconsider and withdraw all outstanding rejections and objections. Favorable consideration and allowance are earnestly solicited. Should there be any questions after reviewing this paper, the Examiner is invited to contact the undersigned at 508-898-8603.

Respectfully submitted,
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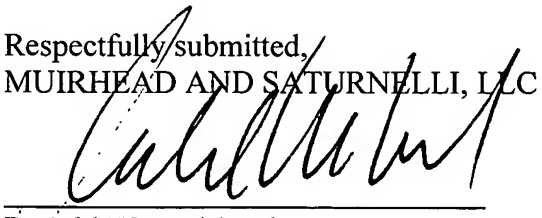

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